

REMARKS

Claims 1-7 are all the claims pending in the application.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-116105 (JP '105).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Korenaga et al. (US 6,037,680).

Claims 2-4 are rejected under U.S.C. 103(a) as being unpatentable over Korenaga in view of JP 2000-308328 (see discussion of JP '328 on pp. 1-3 and Figs. 3a-3b of Specification).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Korenaga and JP 2000-308328, in view of Tsuboi et al. US 2001/0048249.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Korenaga in view of Hwang et al. (US 6,528,907).

The Applicants traverse the rejections and request reconsideration.

Claim Rejections Under 35 U.S.C. § 102

Rejection of claims 1-7 as being anticipated by JP 2000-116105 (JP '105).

The present invention, as recited in claim 1, requires a stator with a stator base. An armature with a magnetic iron core is fixed on the stator base. An armature winding (item 32 of the exemplary embodiment shown below) is wound around the magnetic iron core 33.

The anticipation rejection of the claims based on JP '105 has been maintained. In the Amendment filed February 8, 2008, the Applicants argued that while the frame 40 of JP '105 holds the permanent magnet there is no disclosure in JP '105 that frame 40 is made of non-magnetic material. The Applicants argued that it is not inherent that frame 40 is made of non-

magnetic material. The Examiner incorrectly contends that the magnetic holder comprising items 40, 41 and 42 shown in Figs. 1 and 12 of JP '105 must be made of non-magnetic material. Otherwise, according to the Examiner, the flux would circulate through the holder, thus increasing iron loss and reducing thrust, contrary to what is stated in the abstract of JP '105. The Examiner further points to paragraphs 103-107 of JP '105 where the items 40, 41 and 42 are described to be made of flexible and light weight materials. The Examiner finds this to be further evidence that the items 40, 41 and 42 are made of non-magnetic material.

While it is possible that these items are made of non-magnetic material, it is not necessary that these items are made of non-magnetic material. In other words, the Applicants respectfully submit that even if these items are made of magnetic materials, the linear motor can work. Further, just because these items are made of flexible and light-weight material, they are not essentially non-magnetic. For example, there are light weight and flexible magnetic materials existing. The Examiner has not established that items 40, 41 and 42 are nothing but non-magnetic materials. Therefore, the Examiner's contention that these items are inherently non-magnetic is incorrect.

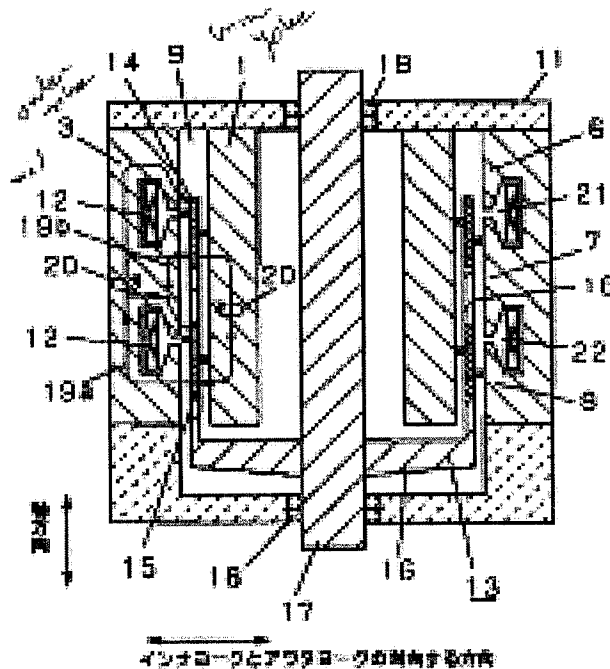
In addition, the Applicants argued that the present invention requires the width of the magnetic back yoke to be approximately equal to a width of the field permanent magnet. For example, in Fig. 1(a) of the present Specification (reproduced below) it is clear that the magnetic back yoke 39 is approximately as wide as the permanent magnet 21.

Width of the magnetic yoke 39 and the width of the permanent magnet 21 is shown to be approximately equal to one another

Fig. 1 is a schematic cross-sectional view of a mechanical assembly. It shows a central shaft (17) with a central hole (18). The shaft is surrounded by a housing (1) with various components: a left flange (12) with a pin (10), a left bearing (20), a left support (4), a left seal (2), a right seal (14), a right support (9), a right bearing (15), and a right flange (10). A vertical arrow on the left indicates the direction of rotation. A horizontal arrow at the bottom indicates the direction of movement.

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above. The Examiner annotates the width as shown in Drawing 1 of JP '105 (reproduced above). However, the Examiner is believed to be misconstruing the transverse length to be the width. It is very clear that the term "width" in claim 1, construed in light of the disclosure in Fig 1(a) does not refer to the transverse length as the Examiner incorrectly contends. A skilled artisan reading claim 1 in light of the disclosure in Fig. 1(a) of the present Specification will construe the width to be as shown by the thick arrow in the annotated version of Fig. 1(a) of the present Specification reproduced at the top of this page.



[Drawing 3]

B—A

In fact, Drawing 3 of JP '105 (reproduced above) clearly shows the inner yoke 1 and the outer yoke 3 from a different angle. Viewing from this angle, it is clear that neither of the yokes 1 or 3 are approximately equal in width to that of the permanent magnets 14 and 15 as required by claim 1.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP 2131 *citing Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Id. citing Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *Id. citing In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Claim 1 is not anticipated by JP '105 at least because it does not disclose a magnetic holder made of a non-magnetic material and does not disclose that the magnetic back yoke to have a width approximately equal to that of the field permanent magnet

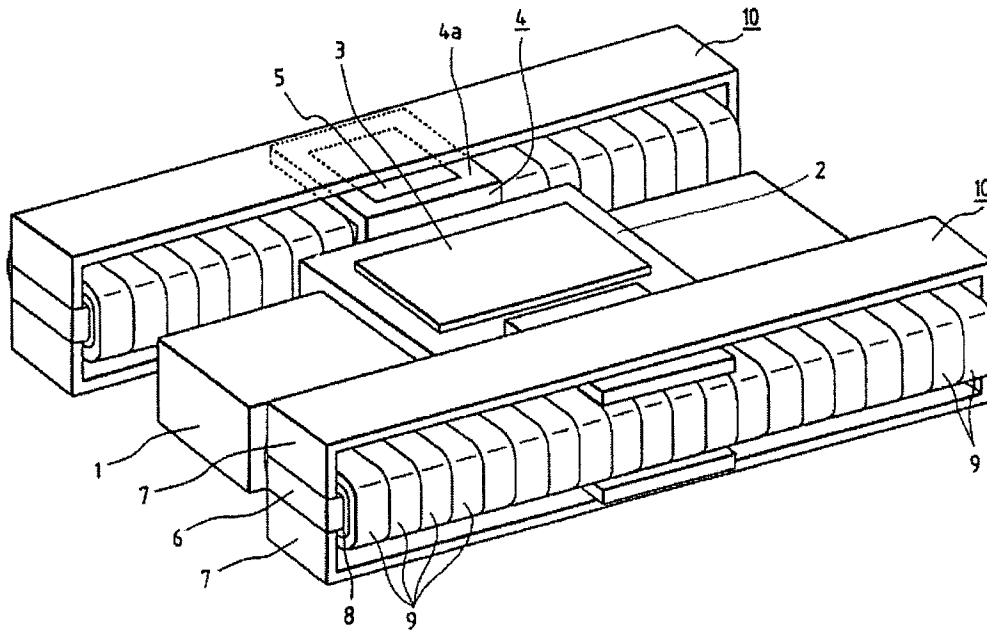
Claim 7 is dependent on claim 1 and is allowable at least for the same reasons.

Rejection of claim 1 as being anticipated by Korenaga et al. (US 6,037,680).

In Korenaga, the armature coil is interposed between a pair of permanent magnets. This is different from the present invention. The present invention requires that the armature be wound around a magnetic core and the magnetic core be arranged oppositely to the movable body having a permanent magnet.

Further, there is no explicit disclosure that the magnetic holder 4 of Korenaga is made of a non-magnetic material. Notwithstanding the Examiner's assertions to the contrary, it cannot be inherent that the holder 4 be made of non-magnetic material.

FIG. 1



Claim Rejections Under 35 U.S.C. 103

Rejection of claims 2-4 as being unpatentable over Korenaga in view of JP 2000-308328

Claims 2-4 are dependent on claim 1, and are patentable at least for the same reasons.

The Examiner has clarified that the rejections are based on the admitted prior art shown in Fig. 3a-3b of the present Specification. In responding to the Applicant's arguments, the Examiner reiterates that the yoke 23 supports the permanent magnet. Therefore, according to the Examiner, the yoke 23 is a magnetic holder as required by the present invention. Since the yoke has the linear scale attached to it, the Examiner contends that this arrangement satisfies the requirement of claim 2 that the scale segment of a linear scale is attached to the magnetic holder. In making this assertion, the Examiner ignores the requirement that the magnetic holder is required to be non-magnetic. In other words the scale is required to be attached to a non

magnetic structure. The Examiner incorrectly contends that the issue of the magnetic holder being made of a non-magnetic material is not germane to claim 2. The Examiner is believed to be incorrect in this assertion. It is believed to be important that the scale be attached to a non-magnetic structure.

Rejection of Claim 5 based on Korenaga and JP 2000-308328, in view of Tsuboi et al. US 2001/0048249.

Claim 5 is dependent on claim 1. Therefore, it is allowable for at least the same reasons.

Further, Tsuboi is cited merely for its teaching related to the stoppers at each of the linear guide and does not include additional teachings related to the features discussed in relation to the combined teachings of Korenaga and JP '328.

Rejection of claim 6 based on Korenaga in view of Hwang et al. (US 6,528,907).

Claim 6 is dependent on claim 1. Therefore, is allowable for at least the same reasons. Further, Hwang is cited merely for its teaching related to the cooling pipes to cool the stator and does not include additional teachings related to the features discussed in relation to Korenaga.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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